

S U M M A R Y

The invention relates to a method for identifying the presence of BBB-specific protein/fragment in endothelial cells of brain capillaries, characterized in that a) endothelial cells of brain capillaries freshly isolated from brain are conventionally pre-purified by enzymatic digestion, b) the digest obtained in step a) is treated with a lysis buffer that essentially destroys present erythrocytes and apoptotic cells and maintains at least 70% of the endothelial cells of brain capillaries in vital form, c) the product obtained in step b) is optionally purified further, d) a subtractive cDNA library is prepared from the endothelial cells of brain capillaries and a subtractive tissue, e) a cDNA subtraction is performed using one ore more differential hybridization(s), f) clones from the subtractive cDNA library are verified by differential hybridization with respect to their respective expression, g) a complete cDNA sequence is prepared for the BBB-specific clones from the subtractive cDNA library, and h) the expression pattern of the investigated clones is compared between fresh and cultured endothelial cells of brain capillaries and, that way, the presence of BBB-specific proteins or fragments thereof is identified as well as proteins and fragments thereof identified with this method.